WESTERN POLITICS.

CULLOM, THE CANDIDATE

His Bearing, Associations, and Ideas. WARHINGTON, Feb. 13 .- At the dinner to Commander Schley, Senator Cullom of Illinois began a general conversation, portions of which may reveal to the reader some incidents in the life of one who has for several years been considered a Presidential possibility, and since Blaine's declination is in the field. Mr. Cullom appears to be from 55 to 60 years

of age, and has a tall, slender, straight, wiry gure. He has had a long career in the Legislature. Congress, the Executive chamber of Illinois, and in the Senata. As he site at a little distance from one, say across the table at the Schley banquet, his resemblance to Mr. Lincoin is quite marked. He has a good forehead, which is corrugated when he raises his systrows, a slender face, and when he makes, which is often, his eyes look to be small and are almost closed. His address is seighborly, and shows both his Southern and Western extraction, and a good disposition. combined with firmness, no pretence of chareter, and considerable acuteness, are impressed upon his visitor. Said I:

I suppose you knew Mr. Lincoln well?" "My father took me to Mr. Lincoln to have me study law. Lincoln told my father that he muld not give me the attention I ought to have, the catechising and directing of my studies, as he was then much engaged and a good deal absent. He advised that I be turned ever to a firm of lawyers, one of whom was a connection of Mr. Lincoln-Mr. Edwards. With them I studied law. I saw Mr. Lincoln. however, constantly and became his friend." "Did he care much about money, as lawyers

do in these days ?" No. it was a secondary matter with him. He would go out on the circuit to practise and after some time come home with his fees separately,wrapped up in little pieces of paper. which he would mark with the name of the person who paid it and the amount: one would be \$10, another \$25, another \$15, and he would then divide with his partner. Herndon."

You do not mean to say that Lincoln would go out and do all that work and give one-half to as plain a lawyer as Herndon?"

Yes, but Herndon was not a bad lawyor. In small cases he had quite a reputation. As a lawyer in a hog case, for instance, which was the most frequent cause of lawsuits. Herndon would give a great deal of effort for the amount of money he received. He is the man who wrote some books about Mr. Lincoln. and a rather chatty book toward the last, in three volumes which a newspaper man got up with him. He collected a deal of matter more or less suggestive about Mr. Lincoln. Some thought he exposed too much that may have been or may not have been homely in Lin-coln's career. The fact is that Herndon, who is now dead, and died very poor, had but little common-sense sagsoity. For instance, one of his relatives left him a farm on the Sangamon River. He dropped the law and went up there to be a fancy farmer and propagate high kinds of stock—hogs, horses, sheep, &c. I met himonce, and he looked as much like a tramp as a man could look who had once been a lawyer. and said I: 'Billy, are you making this thing pay?' 'Oh, lord,' said he, 'I am rolling in wealth. The animals keep moving and the live stock grows while I am asleep. You never saw anything like it.' At that time the poor fellow, I suppose, could hardly buy his shoes. Herndon was of the opinion that he had dis-covered Lincoln, and that Lincoln's office communication with him had been of great service to Uncle Abe. He expected, therefore, as in the case of the fees, to get one-half of Lincoin's patronage at Washington. Lincoin thought that the Post Office at Springfield was a good divide with him, and from that time on Herndon soured upon him, and finally formed the opinion that he was an overrated man." Resuming the above conversation at Mr. Cul-

om's residence, which is the property of ex-Senator Bayard of Delaware, I found him in his library in the second story, rear, where, at the tops of the bookcases, were pictures of parious public men. . At home Mr. Cullom relves his constituents from all over the State, beluding the more than million represented from Chicago. I observed here that he had an aquiline nose, a decided feature in his face. chin like that of Mr. Lincoln, hollow at the cut and wide in the jaw: a mouth sweet, but of islon, and somewhat hollow cheeks. He

talks frankly and laughingly, with earnest passages, and in repose his face is serious. Everybody at Springfield," he said, "remembers Lincoln with kindness. He was never two-faced. His humor and his courage were as marked as his kindness. He had what is called cunning in the best sense, a sagacity that was like comedy, and made you smile evil. I was in politics at Springfield before he had his debate with Douglas. I was the pub-lic attorney, a member of the Legislature. and when he was nominated for President I was Speaker of the Lower House. When he was nominated and strangers began to throng to Springfield from all over the world, I took charge for a while of the general reception. When the first arrivals came and the house was crowded, I remember looking at Lincoin's high stature—he was U feet 4—and his countenance was really noble I thought, making him look like the choice of a nation for their magistrate. He conducted himself with dignity, and any idea we might have had as townsmen that he would fall below the mark disappeared from that first day. He was, however, tenacious, like a politician, of a part of the patronage. I came on to see him to have the Collector and Postmaster at Springfield made. I waited around some time and did not get his promise Pinally I went up to him and said: 'Mr. Lincoin. I am going home: why can't you give me those two offices?' Now.' said he, 'you those two offices? Now, said he, 'you may have the Collectorship, but the Post Office I think I promised old Mrs. Moody for her husband. I can't let you have the Post Office, Cullom; take the Collectorship.' Now, said I, 'why can't you be liberal and let me have both?' Mrs. Moody would get down on me, said he. When Mr. Harrison became President and there was the usual scramble for office after a Democrat had been in, he told me that he would not make anyaprofitments for some time and after a full examination. The next thing I heard he had appointed the Postmaster and Collector at Springheld. I came to the White House and said that I thought this was strange treatment, to appoint Federal officials at my front door, so to speak, without giving me any notice. He said he had not paid any attention to the matter. 'Do you think that patronage is a help to a Congressman or Sacrotor.'

speak, without giving me any notice. He said he had not paid any attention to the matter, but he had."

"Do you think that patronage is a help to a Congressman or Senator?"

"It is the source of nearly all our disputes. If we did not have it at all we would be better off, but having it, we must deal with it. After your appointments are made and have been some time in place the people get used to them, and then perhaps they are in a situation to do you some good."

"How is Springfield a Democratic district?" It was always so before the war. That region was settled by Whigs in the main from kentucky and the South; the Whig idea was listed a negro ought never to be anything else, so when the Republican party prevailed very namy of those Southern whigs went into the Democracy jerosanently. I carried the district for Congress at different times, until, about 1838, pablic life broke me no and I had to go home to get a financial start. About 1872 there was a movement to take the capital from Springfield eyer to Pooria, which is our principal city next to Chicago, a place of 50,000 or more inhabitants, with a large general trade, besides numerous rich distilleries. To help the citients of Springfield went to the Legislature in 1872, where I had been sitting fifteen years before. Again I was clotted beaken, as I had been when Laccon ran. I thought if they were going to keep me in pubble life I might as well ran for overnor. The last time I ran was a hard fight: the Grangers had got up that year and made a nomination, and the Democratic and fight: the Grangers had got up that year and made a nomination, and the Democratic overnor. The last time I ran was a hard fight: the Grangers had got up that year and made a nomination, and the Democratic overnor for a good while. Trumbull really thought he was going to be elected. He figured that he would set the whole Democratic vote, of course, and the laboring men, who were mad at me on account of tecling a truck or huckstering all, and the Grangers. I beat him, however, some 38,

quired ever vota we had to pass that bill over Johnson's we'd. He Traminul look charge of the property of the west of the west of the property of the west of the

a Congress and the cong be simple. They say find the carried and the properties with the first than that mantelpiese over yonder, where he said is was born. By inther was a poor man, who had two nearos slaves. He did not like the said two nearos slaves. He did not like the say of the nearos of a stout their slaves, and he removed of cortain Blooming the family. I think, was Seatch I fish. Cilion is a sout the same name as MacCalium, My father, though not a public speaker, was a leading Whig, went to the Legislature, and sat by lineoin, who voiced his sentiments. He could have been nominated for Governor, but the Democrats, ever since Illinois was a Territory, controlled that the Blate down to the Republican party, and he would have run for no result. When Mr. Lincoln was nominated for he would have run for no result. When Mr. Lincoln was nominated for the would have run for no result. When Mr. Lincoln was nominated for the world in the speak. Said he : Fellow cliticus, Major Cuiling has been overywhere with me and heard this neetings, and I received hearing him speak. Said he : Fellow cliticus, Major Cuiling has been overywhere with me and heard this speech time and again. The only way it is meetings, and I received hearing him speech time and again. The only way it is meetings, which we remember so well. Lincoln had a reaching voice, not very deep.

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I have heard him in the Sential to whome the thought to him backward. With speech time and again. The only way it is meetings, and I received hearing him speech time and again. The only way it is meetings, which we remember so well. Lincoln had a reaching voice, not very deep.

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I have heard him in the sential po his long arms, which we remember so well. Lincoln had a reaching voice, not very deep. A brother of my father went to Missouri to settle and then came to Illinois. A good many Methodists were in the family. I was sent to a Methodist college at Mount Morris, in the northern part of the State, where I had for schoolmates Robert Hitt, now in Congress, and his brother John, and John Rawlins, later Grant's Chief of Staff. I was inleading the morthern part of the State, where I had for schoolmates Robert Hitt, now in Congress, and his brother John, and John Rawlins, later Grant's Chief of Staff. I was inleading the more state of the later of lat

whole. They are writing another bross now letters and spoeches of Lincoln. I think; very useful for the archives."

"Had you anything to do with putting Robert Lincoln into Garfield's Cabinet?"

"Oh, yes; while Governor I went to see Garfield at Mentor on Robert Lincoln's behalf. One of my Generals of militia had Mr. Newell's private car hitched to the Lake Shore train, and, though I declined it, Mr. Newell said it was going anyhow, and to get in. This was in February, 1881. When we got to Toledo there was high water, and we were detained there a whole day. When I got to Cleveland I tolegraphed Garfield to know if he could be seen on Sunday. He answered to come on. My car was switched off by his house, and I went there and presented the name of Robert Lincoln. He said it had been suggested to him, and he thought favorably of it, but, said he: There is Conkling in New York, who is determined that I shall put Levi P. Morton in the Treasury Department. Conkling is due here to-morrow. What would you do in my case? I told Garfield I should do as I had a mind to: that if I had a conviction I would carry tout. I am afraid that thus I might have given some faint heir to Robertson's appointment. But I think that if Garfield had pacified Conkling he might have smoothed out the difficulties with New York. He thought that Mr. Morton was not up to the requirements of the Treasury office.

"What did you think of Conkling?"

"When we were members of the House I sat at the same desk with Conkling a good while. I was always extuck with his physical strength. We would often walk home together, and almost always on the south side of the avenue, so as not to be observed; that was his choice, Though I am of a good height and wiry. Conkling always walked so fast that it made me breath hard. He had some interesting qualities. There was Robert Ingersoll of one of the regiments and delivered the oration over Colkling. Book has gone to New York, like Conkling and I suppose has made another fortune like him, getting hold of a good deal o

above all, his party integrity after he became a Republican in politics, his devotion to Grant, and Grant's devotion to him, his assistance to Douglas at Lincion's request to hring the Democrats into the support of the Union, all tended to make him an enduring associate name in the State."

"Has Douglas a good reputation in Illinois?"

"Ithink he has. The latter part of his life when he came to Lincoln's support made him, as it were, a Republican, and of course the Democrats claimed him, too. He had the constructive spirit of a Whig. The Illinois Contral Railroad and the city of Chicago owe a great deal to Douglas."

"How came Judgo Gresham to be supported so suddenly in Chicago for Fresident in 1888?"

"Gresham was supposed not to be very much of a tariff man, and the Chicago Tribune, the St. Paul Pioneer Press, and the St. Louis Globe-Democrat wanted a candidate who would be mild on the tariff. That, I think, was the basis of the coallition upon him."

"Is Mr. Medill for Blaine this year?"

"He is, indeed. He said to me some time ago: 'You ought to have Illinois, you are entitled to it; but this year I am in favor of James G. Blaine; I think it is his year.' If Blaine does not run." added Mr. Cullom, "I think there will be a lively Republican National Convention next June. They say Sherman wants te run now. We all supported Sherman the last time, but I think we shall look abroad this year."

"Mr. Plumb was thought by some to have Presidential possibilities?"

"Presidential possibilities for politician. He was worth a dozen of Ingells for politician he was worth a dozen of Ingells for politician had been lost through the Alliance, Plumb told me that he was going to recover that State if it killed

"Do you think the Chicago Exhibition will get its appropriation from Congress?"
"I think it will; they have done wonderful things; \$5,000 000 raised in that city by individual subscriptions is a great sum of money. Then they have raised \$5,000,000 more by city bonds. It is true that they were in a good, sound condition, not having much delt, but that made the sacrifice all the greator to go into debt as well as to give heartily. The Exhibition, besides, has expanded to three times the size expected. The applications for room are enormous, and the outlay has been proportionately great. They do not propose, I understand, to do any lobbring here, but just to say to Congress frankly. If you will not give us this money yourselves, having empowered an Exhibition, we must saddle it upon ourselves. I think there is a good feeling toward them. The benefite of the Exhibition will be universal in the West, where art, machinery, and development are just commencing."

"Has not Chicago a good deal sucked the strength from other portions of the State?"

"Yes; it is commonly said that when a man in a country town has \$100 he takes it to Chicago. That city is full of our bright young country fellows. I have always made it a rule to encourage young men who want to embark in a larger field. My father named in of or Gov. Shelby of Kentucky, and when I was a young fellow an old friend of my father who knew Shelby and: "Are you named for that Governor?" Yes. Well, you will never be as great a man as Shelby was! You cannot tell how mad that made me. It led me, as I reflected upon it for years, to adopt the rule not to be satirical with young men, but to put my hand upon their shoulder and say. "Try, try again." Alany of my lads are rich men in Chicago."

"What town in illinois bids fair to be the next to Chicago?"

"Yes. Station is not the best, but it is perhaps as good as that of Chicago was originally. Peorla is a very well-established town. Springfield has 30,000 people. The State lacks good reads, but the stone which underlies I

city. The situation is not the best, but it is perhaps as good as that of Chicago was originally. Peorla is a very well-established town. Springfield has 30,000 people. The State lacks good reads, but the stone which underlies II linois is generally a soft limestone, which tramples into a sort of mortar by exposure."

"You must, have come to Congress in Andrew Johnson's time, and I suppose you knew Thaddeus Stevens?"

"Yes, Stevens was the greatest political leader I have ever seen in Congress; I think none from his time to the present has been his match. He did not say very much nor make very long speeches, but his will, his influence, extended throughout that Congress. I heard Andrew Johnson make his inaugural speech in the Senate. When he was elected he sent word to Mr. Lincoin that he did not think it necessary to come to Washington at the inauguration. Mr. Lincoin called my attention to that and said: This Johnson is a queer man. I don't believe he was Lincoin's choice. I sat by Henry & Lane of Indiana when Johnson was inaugurated. He began to speak in a loud tone of voice and say a great deal, and I remarked to Lane: That man is drunk; he is disgracing himself. I think not, said Lane, but in a few minutes Lane also saw that something was wrong, and he went up to Forney to stop him. Forney wrote something on a piece of paper and put it under Johnson's eye, but he paid no attention to it. Finally Forney intimated to Johnson that it was time to go out to the platform. The book was presented to him, and he said: I refer to ny life and services as a better evidence of my patriotism than any oath." They were laughing and wondering all around. When the struggle began with Johnson thought, as an oid Will with conservative tendencies, it was not worth while to have a quarrei, and I went up to the White House with another Congressman or two toes if we could not smooth things out. He had written a proclamation or veto message, and we ventured to refer to that as a little amused, but on the whole glad to get out. He

corps: but he was a politician sil the time, and, when he finally issued a proclamation that he had entered Vicksburg first, Grant took his corps away, and he came home complaining. We looked upon him as a townsman, and I thought that perhaps he had some reason in his claim. I assisted to get him his corps again; but he was not put very prominently forward any more."

"Judge Davis has bren described as a good specimen of a Whig?"

"Se; Davis thought that he might become President. He made several trials at it, and finally thought that to go to the Senate would help him in the Presidential direction. That cost the Democrats the electoral tribunal, for we made Davis President of the Senate. Neither he nor they met with the success of their expectations.

"What do you think about Cleveland as compared to Hill?"

"Cleveland captured the Democratic party but his performances toward the close of his

"What do you think about Cleveland as compared to Hill?"
Cleveland captured the Democratic party, but his performances toward the close of his term betrayed his anxiety to be reclicated, just as Hill may have spoiled his mess by getting a jerk, as Lincoln would call it, upon the New York delegation. Both the Conventions next summer afford opportunities for a good political shake up."

I asked Mr. Cullom what he would do about the tomb of Gen. Grant. He said:

"It is a delicate question. The family took action to have him buried in New York. Had Plumb lived that burial place would have been fully discussed. The danger is we may leave the subject over to a Congress which will let the subject drop. They could take what funds they have in New York, it seems to me, and not strain for so costly a tomb."

GEORGE ALFRED TOWNSEND.

THE MINE RAT.

He is an Important Factor in the Domestie enomy of the Coul Regions.

"People who don't know mine rats might have opened their eyes a little when they read that despatch from Scranton in THE SUN the other day about certain performances of a horde of those animals made desporate by the mine they inhabited having been abandoned; but any one who has ever lived in the coal regions would see nothing in the story to surprise him." said a former resident of Luzerne.

The mine rat is an institution in the coal regions, and there is nothing the miners respect more when everything is running right. As long as work is going on in a mine on any kind of decent time the rats have no quarrel with any one and everything is lovely. They insist upon certain rights which the miners recognize and submit to without a murmur. It is only when a mine becomes idle and remains so for any length of time that the rats and the outside world antagonize one another. Even then the miner's respect for the mine rat will permit him to take measures against it only so far as it is necessary to preserve himself, his family, and his property.

"Miners' strikes have been brought to a settlement more than once through the persistent efforts of mine rats. I remember one strike in particular that the rats forced to an end. This strike was a particularly stubborn one. Both miners and operators refused to budge one particle from the stand each had taken. The bosses declared that grass should grow about the entrance to the mine before they would consent to the demands of the men, and the men swore they would cut and eat that grass, if they had nothing else to eat, rather than yield a single point to the bosses. "The strike lasted so long that the mule

were taken from the mine and turned out to pasture, and when that is done during a coal mine strike it is a certain indication that there is to be a long cessation of operations in that mine. That was the signal for the rats to take a hand in the difficulty. Miners and their families may starve for a principle if they choose, but the mine rat proposes to live, just the same, and, if the miners abandon him and cutoff his supplies of mule feed, his changes of purloining or sharing in the miners' lunches or eating a mule itself now and then, he will have to come to the surface and look about him. That is what the rats in this particular mine did when they got tired of waiting for operations to resume. The mine was a big one and its rat population immense. The rats left the mine and literally took possession of its contiguous village. They quartered themselves in and about the miners' shanties, drove way the cuts and dogs, and even made it upaway the cuts and dogs, and even made it un-safe for the goats. They lived on the none to picutiful supplies the miners possessed and

solutely beaton by the determined horde of mine rate. Survivus fact that if a mine is a handoned by the workmen either on strike or because of lack of work, the rats will foliow them to their homes invariably if the mine lies idle for any length of time, but if a mine has to be abandoned because of accidents, such as fall of roof, gas explosions, or fire, the rats will seek other mines in the neighborhood where work is going on. Then there is trouble and plenty of it.

"The rats already inhabiting that mine object to the horde of newconers, and regular pitched battles ensue. These continue for two of three days. Then hostituation beems to have to take it. The constitution beems to have to take it. The constitution beems for rats overrum the mine, and, the regular means of sustenance not being sufficient for the increased demand, the rats become so bold and persistent that not even the mules are safe when left by themselves. I have often heard maners say that on eccasions of this kind it was a common thing to find the stable floors covered with hundreds of rats that had been trampled to don't by the mules, as it seemed to be a passion with the rats to ganw the floors covered with hundreds of rats that had been trampled to don't by the mules, as it seemed to be a passion with the rats to ganw the floors covered with hundreds of rats that had been trampled to don't by the mules, as it seemed to be a passion with the rats to ganw the floors covered with hundreds of rats that had been trampled to done the first own members that were crushed beneath their feet.

"In one mine, a few years ago, matters became so desperate from the enormous increase of rats, owing to the caving in of a neighboring mine the floors. It was impossible to keep enough feed on hand for the needs of the mules, and the roor locates grow so thin that they could some manufacture of the miners were forced to bury their din overtain the chambers. The persistent animals would grow through the tool boxes in increduiously brief time and content the mi

PHOTOGRAPHY OF TO-DAY. The Camera's Ald to All Arts and Sciences

> To Dr. R. L. Maddox of Southampton, England, the art of photography owes its most im-portant step forward since the time of Daguerre. It was in 1871 that he invented the gelatine dry plate, as the result of experiments intended to improve on the collodion process. His objections to that process were manifold. It was costly and slow, the manufacture of the cotton was troublesome, and the collodion vapor injuriously affected the photographer's health. To Dr. Maddox's own opposition to the vapor was joined that of his household, as its oppressive odor pervaded every room in the house. He met the case in a characteristic way, not with the submission of one who regards the evils of an imperfect method as inevitable, but with the spirit of an inventor. confident that thought and experiment will find a way of escape.

Using paper and glass by turns, he began. Exhausting the contents of his chemical shelves, he proceeded to draw upon the re-sources of the family pantry. Lichen, linseed oil, quince seed, taploca, and wax were, each in succession, combined with varying proportions of silver salts and made into plates. At times one of the plates would give an encouriging result. Then the proportions of its in-



gredients would be changed carefully, only to have success, just as it seemed within reach. slip away. Since vegetable substances failed him, why not try animal compounds? More complex, they might be more un-stable, and therefore more sensitive to light. Dr. Maddox mixed white of egg with his silver, but in vain. He next employed the finest isinglass, and so promising was the first plate that he felt sure he was on the right track. He was using todide of silver, such as he had been accustomed to combine with collodion. Despite the most careful filtering, the isinglass failed to yield a sufficiently even surface. Then the happy thought struck him: Why not try gelatine? Fortunately a packet of it happened to be in the house, and by dissolving it he secured a much better surface than he had with the isinglass. Just then he had been photographing some laurels, making a rather poor picture. What could improve this mperfect plate? He remembered having heard that for foliage the bromides were better suited than the iodides. To the bromides, then, increasing the quantity and lessening that of the iodides, he turned. So marked, at that point, was the success, that he settled on the use of bromide alone. Then the first effective dry plate saw the light of day. Dr. Maddox at once published his experiments. To some of the most ingenious minds in the ranks of photography, professional and amateur, their promise was as certain as dawn. Very soon the gelatino-bromide plate, as we now know it, was brought to perfection. In the final improvements Dr. Maddox took no part, as his health had broken down and he was forbidden to work. In 1802 a subscription, toward which American photographers are making handsome contributions, is being raised for him because he is infirm and poor. Apart from the subscription, the man whose skill, fertility of resource, and perseverance led the way to so many triumphs of science and art has been utterly without reward.

Because pictures obtained with collodion plates are the most delicate and beautiful the camera can give, repeated attempts have been made to increase their sensitiveness, but so far without practical success. The plate we owe to Dr. Maddox continues to hold its place as incomparably the most rapid and convenient the photographer can employ. Its points of superiority are many. It is always ready for use; it demands no troublesome ac-cessories; it can be placed in any position; an impression on it may be obtained by the touch of a spring; after exposure lasting only an in-stant or protracted for hours, the plate may at any time be developed at pleasure. Freight-ed with this wealth of quality, the dry gela-tion plate takes rule as one of the wrest creatine plate takes rank as one of the great creative inventions which not only add to the capital of art and science, but increase the rate at which their applications are multiplied. CATCHING SWIFT MOTIONS.

the inventions which not only add to the capital of art and science, but increase the rate at which their applications are multiplied.

CATCHING SWIFT MOTIONS.

Let us glance for a moment at some of the revelations won through its exquisite sensitiveness. In the hands of Muybridge of Philadelphia, with exposures in extreme cashs estimated at only one five-thousandth of a second, horses have been photographed walking and galloping, athletes running and jumping, birds flying. That and similar work has had decided effect on pictorial art. Meissonier and other artists of eminence have given us representations of animal motion revised in the light of the camera's disclosures. In catching the swiftest motion in au instantaneous phase the dry plate far excels the capability of the quickest eye. That, however, is only one of the many ways in which visual capacity falls below that of the dry plate. But if the eye, moment by moment, cannot senarate the phases of motion, it can nevertheless follow that motion in its continuity. Can photography reproduce such an impression? If it can, then it may bonst not only much power that the eye has not, but also every power that it has. In its first attempt to annex this last outlying province to its empire the camera allied itself with a device regarded, when first invented, as little more than a toy. In its familiar form the zoetrope, or wheel of life, consists of a cylinder, eight to ton inches in width. It is open at the iop, and around the lower half of its interior is placed a series of pictures showing, let us say, a horse in the successive motions of a leap over a burdle. These pictures are looked at through marrow wortlend slits in the cylinder, the apparatus being meantime revolved rapidly. Before the image of the horse in its lirst attitude has had time to fade from the retina, a second innage showing the next phase of the leap is received, and so on throughout the series, through this effect of the persistence of vision, as it is termed, the other than a more subject of

the stereopticon the images can be enlarged to life size and thrown upon a screen with astonishing vividness.

The kinetograph bestows a distinctly new and most important gift on mankind. In as far as nerve and muscie can be educated by imitating the dexterity of mechanic, chemist, surgeon, or artist, its reproductions will be invaluable. They repeat every movement of the hand, not simply as one might observe it at work, but as the eves would see it were they quickened and sharpened tenfold. A good deal might be learned by watching in this way how an Australian throws a boomerang. A Daccan weaves the tissue of delicate as to be called "woven wind," and how the artists of Japan form and decorate their pottery and brenzes. For an example of the behefits we may expect to find bound up in this new acquisition, let us note its availability in teaching the dumb to speak. Deaf mutos learn to interpret what is uttered by closely observing the moving lips and lacial muscles. Let a speaker's lips be

photographed, in their series of motions, as he says. "How are you?" In the resultant piotures placed in the kinetograph the learner may observe the motions of articulation until he has mastered them perfectly. The invention has other applications quite as interesting. If less serious.

USED BY THE ARTIST.

It has been said often that photography is the handmaiden of seience rather than of art, that photographs are likely to be more valuable for what they teach than for what they are in themselves. While that may be true, the camera is more and more a moans of bringing to the draughtsman, the designer sand the limit of the draughtsman the designer sand the limit of the draughtsman the designer sand the limit of the same than the same true of a wave, the whorl of a fern, the trail of a vine, can secure on the sensitive plate a thousand outlines of value for elaboration. An artist who sees a quarrel, an embarkation, a group of yeoupsters picking berries, finds the groundwork for a popular canvas or etching. His camera does not supersede the pencil and brush, but simply frees him from the draugery of filling his sketch book and portfolio. Later, pencil and brush do their work in arrangement, in composition, in the suppression and emphasis in which so means rather than an end, but a means of incalculable importance. And lister, inst as in the hands of the artist, the gelatine film is available for unnumbered purposes for which a wet plate would be out of the question. Take a botanist, for example. While a-field, gathering specimens for his collection, he secures the portrait of a flower here, of an herb there, in the full flush of life. In giving a true idea of a plant a portrait very effectively supplements its shrivelled and discolored remains. The bottmist, too, as at Harvard, is end reading the contravalues compare with one place side by side the products of the most distant levels and zones. Betany has a practical as well as a strictly scientific side. From the Department of Agriculture at Washington, from State experimental farms, many thousand seeds, cuttings, and saplings are distributed throughout the Union every year. Were photographs of specimens in new territory taken systematically and compared at headquarters much could be done toward to provide the provided for by putting a yard-sticy and the provided f

fields and giving perspective with the utmost truth. To the opticians who have made these lenses photography owes a debt only second to its obligation to the chemists who have so much enriched the resources of both the camera and the various processes which follow its work. In a recent combination by Dailimeyer, an instrument is at once telescope and camera, a welcome simplification in taking pictures at iong range.

LUSED BY THE PHYSICIAN.

As lenses have been refined and perfected photography has been applied to higher and higher powers of the microscope, until now we have been treated to the contribution of the contribution of the country was the late Col. Woodward. Photo-micrography now furnishes images of the benefits the byoscian receives from the camera. It photographis has been portrayed, as a basis for comparison in the treatment of yellow fever and similar adments. These are only a few of the benefits the physician receives from the camera. It photographis the bear a miner of the sort of the body, difficult to observe, have been limned on the sensitive plate for leisurely examination. On analysis of one of the series of instantaneous photographs taken by Mr. Muybridge, showing patients with impeded or violently excited in France, with great instructiveness, to epileptic and hypnotic patients.

In taking a picture in a dimit lighted hospital and disease. Obscure derangements involved. The same method of portraiture is now applied in France, with great instructiveness, to epileptic and hypnotic patients.

In taking a picture with the second process of the control of the committee of the eye and of other parts of the body, difficult to observe, have been limned on the sensitive plate for leisuraly excellent france, with great instructiveness, to epileptic and hypnotic patients.

In taking a picture in a dimit plate hospital process of the control of the con

In taking a picture in a dimly lighted hospital ward, or other obscure interior, or out of doors under dense foliage, the photographer, especially if he be an amateur, has trouble in deciding the time of exposure. With frank recognition of the difficulties it seeks to meet, a new English exposure meter, greatly reduces the chances of taking a poor picture.

As photography multiplies on every hand its alliances with art and science, the amateur is likely to become less and less satisfied with random shots at anything and everything. He sees how, by giving it some definite aim and connection, he can invest his work with a fresh and vivid interest. Perhans a bridge is being constructed in the neighborhood. As the spans rise from day to day he follows the process, some insight into the methods of the modern engineer resulting. Last year, while the beautiful groined celling of the new Public Library in Boston was being cemented, a series of photographs was taken revenling the rare ingenuity of the Italian builder. At times work of that sort rises to very practical worth. The designer of the Exhibition grounds at Chicago, Mr. F. L. Olmsted, receives photographs once a week in Boston showing how his plans are taking form. In such a report there can be nothing forgotten or glossed over. With all the value that set purpose can give his plans are taking form. In such a report there can be nothing forgotten or glossed over. With all the value that set purpose can give his plans are taking form. In such a report there can be nothing forgotten or glossed over. With all the value that set purpose can give his plans are taking form. In such a report there can be nothing a rich reward in submitting himself to the discipline demanded when he makes his camera bear on the art or selence which he desires to attack with new skill or to understand with more intelligence.

Guarding the Bank of England.

A most extraordinary guard takes upits quarters inside the Bank of England every evening at 7 o'clock all the year round, remaining there until 7 o'clock the next morning. It is an officer's guard, and consists of a drummer, two sergeants, and thirty men, all well armed. Each man receives a shilling from the bank authorities immediately upon his arrival, a sergeant's share being two shillings. The officer is allowed a supper for two and three bottles of wine, and is permitted to invite a friend if he sees fit to do so.

From the Manchester Guardina.

From the Detroit Free Press.

and three bottles of whic, and is permitted to invite a friend if he sees fit to do so.

From the Manchere Guadian.

The Bank of England's doors are now so finely balanced that the clerk, by pressing a knob under his desk, can chose the outer doors instantly, and they cannot be opened again except by special process. This is done to prevent the darling and ingenious unemployed of the great metropolis from robbing the famous institution. The builhon department of this and other great English banking establishments are nightly submerged in several feet of water by the action of the machinery. In some of the London banks the buillion departments are connected with the manager's sleeping rooms, and an entrance cannot be effected without setting off an alarm near the person's head. If a dishonest official, during day or night, should take even as much as one from a pile of 1.000 soverigns the whole pile would instantly sink and a pool of water take its place, besides letting every person in the establishment know of the theft.

The Only Survivor Out of Eighty-three,

The Only Survivor Out of Eighty-three.

From the Philadelphia Record.

Hazieton, Pa., Feb. 7.—James D. Thomas, who died on Saturday from pneumonia, had one of the most remarkable escapes from a mine explosion in South Waies that have ever been recorded.

In 1887 Thomas worked in the big goal mine on the out-kirts of Ferndale, South Wales. On the pay roll were the names of 787 men. One bright day the miners were lowered to their work, and had been escapied but a few hours when a terrific explosion of gas occurred. Thomas, with eighty-two men, at the time was standing in a manhole. Every one of his companions was blown to pieces, but he was uninjured, except for a few slight burns on his face.

Understanding the nature of the explosion. Thomas covered his face with a handscreined saturated with cold tea, and, thus protected from the poisonous fumes, he wandered through the subterranean passages until discovered by a resculing party. When he learned that he alone of the eighty-three men had escaped death, the poor fellow fell upon the ground and cried like a child.



Helmer's Bi-Ozone

This remedy alone performs, automatically and dynamically, all that the most intelligent physicians dare hope to accomplish with the shole materia medica to back them. Ozone (not to be confounded with oxygen in any

form, the cheaper and commoner constituent of our atmosphere, i. c., 85 per cent, of the air we breathe) is the true active principle of both life and light as well as the essential quality of all medication. Mine is a genuine discovery, and irrefraga-

ble proof is daily accumulating that all the so-called "incurable diseases" may be, by this simple treatment, scientifically relieved

and cured. Cases of cured Dyspensia, Bronchitis, Catarrh, La Grippe, Scintica, Epilopsy, Rheumatism. Lumbago. Nervous Prostration. Obesity, &c., referred to by permission.

A free trial of this wonderful remedy is offered at my office, 822 BROADWAY, S. E. CORNER OF 12TH ST., NEW YORK CITY.

JEWISH EXILES AS YANKEE FARMERS.

The Society Organized to Baise a Fund of \$100,000. A conference of Russo-Jewish inhabitants of this city was recently held in the Hebrew In-

stitute for the purpose of raising a large fund for the service of those of their number who desire to engage in farming. After officers had been elected, addresses were delivered by Rabbi Razin and others, resolutions were adopted, and a committee of forty was elected to propose a plan of action in the shortest possible time. The speakers dwelt upon the pressing ne-

cessity of immediate action, on account of the wast influx of Jewish newcomers, many of whom are unable to find employment in the urban industries of this country. Mr. S. Rosenbluth spoke of the dangers of the present emergency, and said that the Jews here must turn their minds and hands to agriculture which offers the only means of escape from the cvils by which they are menaced. Rabbi Raddin warned his hearers, and appealed to them to adopt the policy advocated by Mr.

aroused a race projudice which is sure to inure to their disadvantage, and the manifestations of which have already been very disagreeable to them. It is believed that they would not encounter any troubles of the kind in an agricultural community.

A Jewish agricultural colony was established last year in California: there is another in lowa, and there are others in several States of the West and the South. In August of the year 1800 The Son gave nearly a page of its space to an illustrated sketch of the Jewish farming settlement at Alliance in the State of New Jersey. It was then told how the settlers there had procured land, built houses, and were engaged in cultivating grain, exertables, and fruits. Since that time they have prospered, and they have found it proflable to engage in certain manufacturing industrice as well as in farming. At several fairs in this city they have displayed with pride the products of their vegetable fields and their orchards, and have been able to sell at good prices all that they raised. There are now several other colonies of the same kind in New Jersey, and there would be still more of them if tracts of fertile land could be procured at suitable rates.

Within the past two years Jowish limiting and some of the States of the real produced and their orchards, and have been getting possession of the States of the Judice of the product of their recent purchases of land in Connecticut, an immigrant named Pankin visited that State, and ascertained that many abandoned farms there "could be lought for a price equal to less than the original cost of the buildings upon them." There were stumps and stones in plenty on the land, but he connecticut, an immigrant named fand in Connecticut, an immigrant named fand in Connecticut, and inconnecticut, and formation upon the subject. Not long afterward the Pankin family returned to Connecticut, and formation upon the subject. Not long afterward the Pankin family returned to Connecticut, and formation in the town of Chesterfield. In two months nin

The Stram of Hyderabad's Big Family.

After our ride on the clephants, we visited one of the ralaces of the Nizam. His palaces and buildings cover an extent of ground over two miles square in the city of Hyderabad. I am told the Nizam has a harem of 350 women.